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HISTORY OF THE DISCOVERY OF
WATER-LIMESTONE AND EARLY

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HISTORY
of the
DISCOVERY OF WATER-LIMESTONE
and
EARLY MANUFACTURE OF CEMENT
at
Southington, Connecticut

BY
Frank D. Andrews

PRIVATELY PRINTED
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Vineland, New Jersey

1924

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DISCOVERY OF WATER-LIMESTONE
AND
EARLY MANUFACTURE OF CEMENT
AT
SOUTHINGTON, CONNECTICUT*

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NUMBER 43.

VINELAND, NEW JERSEY

1924

P R E F A C E .

Since the year 1818 when Canvass White, an engineer, first discovered that the water-limestone found along the line of the Erie Canal would make a cement that would set under water, its manufacture has become one of the leading industries of the United States, employing an army of men and millions of capital to supply the demand.

The Southington cement industry now seems insignificant in comparison, yet in its day the product of the Moore and Andrews quarries was considered of a superior quality and was in great demand in the construction of many important works.

As all industries have had a beginning, the following account of the discovery of the water-limestone and its early manufacture into cement may be of sufficient interest to place on record.

The writer was born in the old homestead on the farm where the water-limestone was first found. At his fathers death that portion of the farm came into his possession. For years it was his home and he became familiar with its every feature; field and meadow, hillside and flowing stream.

The quarry from which the stone was dug was in his youth a neglected place, its shelving banks were overgrown with bushes and running vines. The several kilns in the vicinity where the stone was burned were in a ruinous condition, the old mill a half mile away, had fallen into disuse, and

later was torn down, the mill-dam no longer holds back the water that furnished power to grind the cement, the brook unobstructed murmurs as it flows over its stony bed as of yore, unmindful of the changes the years have wrought. Where kiln and mill once stood nature had claimed her own again and clothed the crumbling ruins with verdure.

The story of the Southington cement industry with its former life and activity, is similar to other enterprises which in the past flourished for a season and ceased to be, or were absorbed into the larger movements of the present day. The labors of the pioneers however, should not be forgotten for on them fell the heat and burden of the day, and their efforts to faithfully serve their fellow-men is worthy of our highest respect, and to their memory this brief historical sketch is respectfully dedicated.

FRANK D. ANDREWS.

VINELAND, N. J.

JANUARY 30, 1924.

CORRECTIONS.

Page 5, for "seperate" read separate.

Page 6, for "proscsess" read process.

Page 6, for Anson Merriman, a descendant of "Daniel" read Nathaniel.

Page 11, for "interst" read interest.

Page 19, for "north-west" read north-east.

Page 20, for "more than thirty years" read for upward of thirty years.

HISTORY
OF
THE DISCOVERY AND EARLY MANUFACTURE OF
CEMENT
AT
SOUTHINGTON, CONNECTICUT

Southington, in Hartford County, Connecticut, was a part of ancient Farmington from 1640 to 1779 when it was incorporated into a separate town.

In size it is nearly six miles from north to south, and in its widest part about the same distant from east to west.

Extending along the eastern boundary is a series of trap-dykes, a continuation of the Mt. Holyoke Range. They rise gradually toward the southwest, terminating abruptly with a precipitous rocky face, and are known locally as "High Rock," "Short" and "South" Mountain, and range from 500 to 900 feet above sea level.

The western border of the town is on the line of the granite and gneiss rocks of the Green Mountain Range.

About two and a half miles east of the town, and not far distant from Short Mountain is the farm and homestead formerly owned by Luman Andrews.

Not far from the highway, and near the south barn on this place can be seen an excavation where nearly one hundred years ago was discovered and quarried a water-limestone, which when burned and ground was considered superior to the celebrated Portland Cement.

The story of its discovery and process of manufacture is most interesting, giving as it does the history of an industry which flourished some thirty years before the Civil War, changing a quiet neighborhood into an active busy community.

Luman Andrews, (the writer's grandfather,) on whose farm the discovery was made, was the son of Samuel Andrews and Patience Langdon, born at Southington, October 5, 1776, while his father was serving as a soldier in the Revolution.

In his twenty-sixth year, September 30, 1802, he married Loly Cowles and removed to Plymouth, where his son, Gad was born, May 25, 1803. Returning to Southington, he ran a mill, engaged in the manufacture of wooden combs and carried on a farm at South End, where his second son, Bennet J., (my father,) was born, December 5, 1806.

On the 18th of January 1814, Luman Andrews bought fifty acres of land lying between the highway and High Rock, on which some years later a large pond for storage of water was constructed.

April 7, 1818, he purchased the farm on which he was then living of Nathaniel J. Root, consisting of one hundred and four acres for \$3,200.

About a mile distant was the home of Roswell Moore, a prosperous farmer with a large family. One of his sons, Sheldon Moore, born October 17, 1798, was a graduate of Yale College, class of 1818, and was studying law. Between these farms and adjoining that of Luman Andrews was the home of Anson Merriman, a descendant of Daniel, one of the first settlers of New Haven, born October 17, 1786. He was a man of versatile attainments, having been a manufacturer in a small way of several useful articles, a man of great activity, energetic and im-

impulsive, quick to form an opinion, but not always based upon sound judgement.

I have described these men more fully, perhaps, than the occasion warrants; each one however, played a prominent part in the discovery and subsequent development of what proved to be an important industry.

Anson Merriman, though much older, was of that temperament that knows no age, became intimate with the younger men, especially with Gad'Andrews who was fond of reading and study.

Sheldon Moore, educated at Yale College, was the best informed and had a larger circle of acquaintances, his reading too, had been along scientific lines.

The American Journal of Science, a new publication, conducted by Prof. Benjamin Sillman of Yale College, was doubtless in his home. In this journal is an account of the discovery of a "material for making an excellent water-proof cement, existing in great abundance in the western district of this state." [New York.] This cement was extensively used in the locks and other mason-work of the Erie Canal. "It is pulverized [as it will not slack] and then used by mixing two parts lime and one part sand. It hardens best under water."

This account, or similar articles in the newspapers of that period may have caught the eye of Anson Merriman, who remembering the outcrop of blue slaty limestone in the ravine below Mr. Andrews' barn induced him to make further investigation.

The exposure of this peculiar stone, it appears, was only about ten feet in extent, the sulphurous smell when broken, and the difference between the overlying strata, may have led him to believe it was of some commercial value.

Selecting specimens of the stone he visited New Haven and consulted Prof. Silliman, then one of the leading scientist of America. Evidently this interview was not wholly satisfactory, as he had other talks with him on the same subject, probably desiring him to analyze the specimens he brought. This Prof. Silliman declined doing, and either at Mr. Merriman's suggestion or on his own initiative, Sheldon Moore wrote to him regarding the water-lime stone. In Prof. Silliman's reply to his former pupil's letter he gives the information at his command. Fortunately the letter has been preserved, having been in my possession nearly forty years and is here given in full:

New Haven. June 21st 1825

Dear Sir

My absence from home for several weeks has prevented my answering your letter of May 14th & I have just received that of June 18th

I am very sorry that it is not in my power to give you the satisfaction you desire respecting the water-lime stone, in volume 3 of the Am' Jour' Scie' for 1821 you will find some account of the water-lime stone of New York together with an analysis which is as follows.

Carbonic acid	35.05
Lime	25.—
Silex	15.05
Aluminum	16.05
Water	5.03
Oxid of iron	2.92

98.20

In No 1. vol 9. p 192 of the Am' Jour' you will find a short article on Roman Cement which is very instructive of which the following is an extract.

"M. Minard has further discovered that the

property which the Roman Cement possesses of setting under water, belongs to almost all calcareous stones.

Certain limestones, employed from time immemorial in the production of lime, gives at pleasure, a Roman Cement which sets in a quarter of an hour, another which requires four or five days, & also a rich lime which will not harden at all.

To this effect the stone must lose 8, 12, or 30 per cent by calcination. M. Vical, to whom we are indebted for so many new facts with respect to mortars, has recently published one which perfectly agrees with the general remark of M. Minard, which is that chalk feebly calcined, gives a mortar capable of setting under water. Various experiments induce M. Minard to presume that Roman Cements owe their quality to a sub-carbonate of lime, produced by the action of fire upon the natural carbonate. The happy consequence which he has drawn from his numerous experiments, that Roman Cement may be made in almost every place where limestone is found, appears to me beyond all doubt."

I know of no test by which a water limestone can be proved but that of burning & preparing it with sand etc & using it under water. As I have had no practical experience on the subject, the experiments of a mason would be more to the purpose than any of mine could be, & so I have informed Mr Merri-man in several coversations with him. I will thank you to inform him that I have received his letter & specimens but having been constantly away have had no opportnnity to pay any attention to them.

Tell Mr M. if you please that an alalysis would be of no service to him, as it is not yet determined what particular constitution belongs to a water-cement. The experiments of the masons are all that he needs. If however he insists on others I

recommend him to apply to Mr Les' Chilton in the Park four doors above the Theatre N York, who will analyze it with accuracy & skill & whom if necessary I am willing publicly to recommend, my duties & health will not permit me to do it, and I wish Mr M. to consider this as an answer to his letter. I thank you for your inquiries respecting my health & am happy to say that it is much improved altho still unequal to the demands upon it.

Should you be in N Haven & will call upon me I will converse with you farther upon these subjects, and can give you some of the N York water limestone.

I remain Dr Sir

Your friend & servant

B Silliman

Prof. Silliman's very sensible advice about testing the limestone was tried. Gad Andrews constructed a kiln holding three bushel of broken stone, when thoroughly burned it was pounded in a wooden mortar to the requisite fineness, mixed with sand and left to harden under water. Anson Merriman doubtless assisted in this experiment which was closely watched and proved a decided success.

Assured of the value of the product for general and special use, Luman Andrews and his sons made plans for its manufacture.

The first requirement after the stone was quarried and burnt, was a mill with water power to grind it. The necessary water power was not available on the Andrews' farm, and hampered by the lack of means to purchase they at first leased the land they were later able to buy. On this land through which ran a stream of water a pond was made, a mill built close by, and water limestone, quarried, burnt and ground was manufactured here for many years.

The cement proved to be of superior quality and found ready sale with an increasing demand.

The success attending the original manufacturers led to the search for and discovery of other deposits of water limestone in the vicinity and companies were formed for its manufacture. The firm of Barnes and Bradley carried on the business until their quarry was exhausted.

On the farm of Roswell Moore a more extensive deposit of the water limestone was found, and with his sons, they too commenced to manufacture.

The cement was sold for five dollars a barrel but competition later reduced the price to three dollars.

My cousin, Luman Andrews of Southington, son of Gad, and grandson of Luman Andrews, born January 5, 1839, on his father's farm, formerly the property of Anson Merriman, was familiar with the cement industry, and has furnished me with a short account of its manufacture as he remembers it. He says, writing about 1919: "As I am the only person now living that witnessed the process of manufacture of this waterlime cement from the excavation of the raw material to the finished product a brief description of the proceedings may be of interest.

Seventy years have elapsed since that time but the recollections are as vivid as if the incidents occurred but yesterday:

A vast amount of time was spent in experimenting on the best form of kiln to be used, no less than three kilns were built before a satisfactory result was reached.

The Moore firm were experimenting along the same lines; I here insert a copy of a description written by Mr. Eli Moore of the form of kiln used by Roswell Moore and sons. The description gives a general idea of the size and shape that was deem-

ed most satisfactory. Regarding the date, 1829, of the building of the first kiln, Mr. Moore here evidently falls into error as without doubt Luman Andrews was the first man to put the finished product upon the market.

Memorandum of Lime Kilns.

“First kiln was built between the roads west of the brook at Mrs. Millers in the autumn, I believe, of 1829, held about ninety bbls, the dimensions are not recollected exactly.

Length of bottom say about	7 feet
Width " "	6 " 6 inches
Breath of swell	9 " 6 inches
Height	11 " 6 inches
Size of top	5 " 6 inches

The above kiln was built in the shape of an egg small end up, was rather thought I believe to be wrong end up, I am pretty sure we thought too high.

The second kiln built in the same place held about seventy bbls, built I believe in 1834, in the spring.

Length at bottom	6 feet 9 inches
Width at bottom	7 feet 16 inches
Height	9 feet
Size of top	6 feet 10 inches

The above is a pretty good kiln but is thought to be rather large at top and perhaps it would do to raise it a little in height, enough to bring the top within six feet. Shape of an egg butt end up.

Third kiln south of roads in 1834, calculated to hold about one hundred bbls. Little end down.

Length at bottom	7 feet 7 inches
Width at bottom	6 feet 9 inches
Breadth of swell	9 feet 8 inches
Height	11 feet

“While the under-ground rock of this section lying between the main trap dike and the small sec-

ondary dike to the west a distance of about three fourth of a mile in width, and extending north and south indefinitely, was composed of a lime stone that would effervesce in acid, the peculiar form required for the manufacture of the hydraulic cement seemed to occur only in small pockets in this main limestone formation. These pockets varied from five to fifty feet in width, and were of different length.

The original pocket was found just south of Luman Andrews' barn, the old quarry is still visible. After digging five or six rods this pocket became exhausted and a new quarry was opened in the same hill side about forty rods south, this pocket was much larger than the first one, here excavating was continued until the centre of Andrews Street was reached, when the firm of Barnes and Bradley, into whose land it extended continued the excavation,

This pocket after reaching the land of the latter firm, took a sharp turn to the northeast extending for about a quarter of a mile until it reached Woodruff Street, at the centre of which the Andrews firm again claimed possession, and continued excavating until the limit of the pocket was reached.

Meanwhile the Moore firm, about a mile north, discovered another pocket which proved to be the most valuable and extensive quarry opened. A new firm of R. Moore and Sons was now formed. Naturally competition now began to arise between the competing companies and the price was reduced from five to three dollars a barrel,

The firm of Barnes and Bradley becoming inoperative from lack of material, and in 1839 Luman Andrews having died, the old firms of L. Andrews and Sons and R. Moore and Sons decided to form a combination, or in modern terms a trust, resulting in a

new company by the name of "Moore and Andrews." This new firm continued in operation until the sharp competition of the Hudson River companies reduced the price to one dollar or less per barrel, and the raw material becoming practically exhausted, or expensive to procure, the business was abandoned.

As long as the old price of five dollars per barrel was maintained the profits were immense, about five hundred dollars being produced from each kiln.

With the exception of the barrels the cost represented nothing but labor, and that was cheap, abundance of help could be procured at from eight to twelve dollars a month including board, and as the necessaries of life, flour and meat were mostly produced upon the farm the expense of living was reduced to a minimum.

Transportation was another factor to be considered, as railroads were not available, teams of horses or oxen were the only means of getting their products to market; in transporting their cement to New York or Philadelphia, the nearest available place was Middletown, which was upon the Connecticut River.

At this time Waterbury and Naugatuck were beginning to feel the necessity of more water power and many dams were being constructed, this of course made a large demand for this cement, at a comparatively easy hauling distance; at times the demand was so great that the following plan was adopted, in the early morning two teams were started for Waterbury, the horse team moving faster went ahead with five barrels, while the ox team which moved slower with six barrels, only reached the top of the mountain, there unloaded and returned home, the horse team coming from Waterbury to the top of the mountain reloaded the six barrels and

returned to the city; thus delivering eleven barrels in one day. Large quantities were also used in Hartford and New Haven, which places could be reached by teams.

Much trouble was experienced in constructing a kiln, to procure stone for the structure that would withstand the fierce heat, they went even to the expense of hauling a species of rock from Burlington (Radiated Talc, so called,) a very tough rock, free from lamination, and compact, but with no better success, and that was abandoned; under this heat trap would crumble, and they finally went back to the red sandstone formerly used, replenishing when necessary.

The first thing to be considered in building a kiln was the location, a steep hill was necessary in order that the top could be reached with teams for filling, while the front should be lower for firing.

In building this plan was adopted; a strong foundation was laid, with two ash pits extending across the bottom, a wing wall about a foot wide was carried all around the inside of the kiln and a stone partition was built between the ash pits, when these pits were covered with iron gratings a level substantial floor was formed ready for the limestone, these iron gratings were cast in sections about twelve inches long and ten wide.

At this point the kiln was already for filling with limestone. This filling was truly a work of art, only experienced workmen were employed, Gad Andrews appears to have been the only person available for the Andrews' firm.

When quarrying the best stones were assorted out for constructing the sides of the flues, and an especial lot was reserved for covering them. Around the sides of the kiln and over the stone partition

a stone formation was raised making two flues about two feet wide and two feet high, gradually narrowing at the top; when these walls were finished the larger stones were placed over the flues, not flatwise but upon edge, to give the necessary strength for the great weight to be placed upon them, and also to form a draft, after this the smaller stones were thrown in from the top until the kiln was filled, no stones were allowed to be dumped into the top from a cart but each load was placed upon the ground and then thrown in by hand, this plan kept out all dirt and foul stuff.

When filled and well rounded over at the top they were ready for firing, about eight cords of wood were needed for a kiln and this had already been placed about the opening of the flues within easy reaching distance. as it took two days and one night to burn a kiln the firing was started in the morning, continued through the day and night and slowed down about dark of the second day.

In firing great care had to be used not to get too strong a heat at any one time, as too much might result in melting about the flues and thereby choking the draft, or worse still the breaking down the arch of the flue and a dropping of the whole structure.

After firing it took three or four days to cool the mass sufficiently for handling before it could be taken out and wheeled into the upper story of the mill a short distance away.

This mill was constructed with three stories, the upper story in which the burned stone was placed, contained what was called a cracker, this cracker was composed of two heavy iron disks about two feet in diameter with corrugated faces, the lower disk was stationary while the upper revolved slowly when in operation, the whole structure was

built firmly into the floor and broken burned stone shoveled about it. The attention of the miller was mainly devoted to keeping the cracker in operation and watching the filling of the casks in the basement, the most of his time was spent in going up and down stairs.

After the stone had been crushed by running through the cracker into pieces about the size of a hazelnut or smaller they were carried down a chute into a hopper on the next floor, this hopper hung loosely over the two huge mill-stone used in the final grinding, as usual the lower mill-stone was stationary, while the upper which was circular about five feet in diameter and ten to twelve inches in thickness, probably weighing two tons or more, revolved rapidly over it, these two stones were grooved upon the smooth surfaces and the upper was so adjusted that it fitted the lower one very closely and so arranged that it could be raised or lowered as the work required. The shaking hopper kept a continual stream of crushed stone running down into the aperture in the center of the upper mill-stone.

The finished material from this room ran down into the basement into well papered barrels placed there for the purpose. The barrels always held a certain weight, about three hundred pounds and when this amount was in they were rolled away and another placed for filling."

In the preceding account no mention is made of the part Anson Merriman took in the manufacture of cement, or in what manner he profited by his discovery of the water limestone. It is believed he was associated, for some time at least, with one of

the companies. The farm he bought of Mr. Root he sold to Gad Andrews in 1832. He then purchased a farm, a half mile or more north of the Moore homestead. On this place, somewhat later, he set out a thousand Baldwin apple trees, then an untried variety, which proved to be a profitable venture for his descendants. Mr. Merriman died September 2, 1853.

From the commencement of the manufacture of cement by Luman Andrews and his sons in the late twenties the business had steadily increased. The large profits at first realized were considerably reduced by competition. After the death of Luman Andrews, September 17, 1839, at the age of sixty-three, his sons, to avoid further competition united with the Moore firm under the name of Moore and Andrews, and the industry conducted by the young men was successfully continued, Roswell Moore having died, April 9, 1847, aged eighty five years,

Eli Moore, born February 3, 1801, of the firm of Roswell Moore and Sons, remained on the farm after his father's death. His brother's: Roswell, Oliver and Sheldon removed to Kensington, where, having married, they bought or built homes, Oliver in 1830, occupying the old homestead of Gen. Selah Hart.

In Kensington the brothers utilized a fine water power with two mill ponds, the power from the upper pond supplying a grist mill and the lower a mill for grinding cement for the company, the increased demand requiring more power for production than was available at Southington. The burnt stone had to be carted from the kiln, some three miles away, to be ground at this mill.

Bennet J. Andrews was the youngest of the firm of Moore and Andrews, and one of the most active. The farm on which the water limestone was discov-

ered was now in his possession. His brother, Gad already owned and occupied the adjoining farm, which with his two sons, Elizur and Luman, he cultivated.

Bennet J. Andrews desirous of enjoying the educational and social advantages of a larger community, bought a lot and in 1851 built a substantial residence on Arch Street in the growing town of New Britain, to which place with his family, consisting of his wife and two children, Emma B. and Franklin D., he removed. With competent help he still conducted his farm in Southington, carried on the manufacture of cement and engaged in the wood business, New Britain proving to be an excellent market.

Roswell Moore of Kensington had two sons, Nelson A. and Roswell Jr. The former with an artistic temperament opened a daguerrean establishment in the city of Hartford, later becoming well known as a portrait and landscape painter.

Roswell Moore Sr., the father, died as the new year entered, January 1, 1857. His son Roswell and Bennet J. Andrews, the surviving partners of the firm of Moore and Andrews, Gad Andrews having retired, was by mutual consent dissolved. The business however, was continued awhile longer by Mr. Andrews of New Britain.

In the meantime the abundant deposits of water limestone found in the state of New York were being extensively developed producing a large annual output. This was especially the case of the quarries and manufactories along the Hudson River, which gave convenient and inexpensive transportation to New York and other large cities upon its borders.

Mr. Andrews visited one of the large manufacto-

ries in the vicinity of New York where the finished product was turned out in such quantities that it could be sold for one dollar a barrel, this was less than he could manufacture it, and very wisely reduced his output to the amount necessary to supply the local demand.

When New Britain was about to introduce water-works the Southington cement furnished by Mr. Andrews was used in the construction of the dam at Shuttle Meadow. There was also considerable demand for this cement from masons and builders, but its manufacture was fast declining.

Mr. Andrews now turned his attention to the manufacture of cement tile for drains and sewers, the disease, however, which later caused his death, prevented him from continuing the business as he had planned.

In the fall of 1859 he left his New Britain home, which he had previously enlarged and improved, and returned to the old homestead at Southington convinced the end was not far distant. Here amid the associations of his earlier life, at the age of fifty-three, when life should have held a score or more of years for him, he died March 18, 1860.

In Oak Hill Cemetery at Southington a brown stone monument marks the last resting place of Bennet J. Andrews, who for more than thirty years was actively engaged in the manufacture of cement, a Southington industry, once a flourishing business, but now, like the men with whom he was associated in the enterprise, long forgotten.

A letter from Mr. James Shepard. Author of "History of St. Mark's Church, New Britain, Conn." and other historical and genealogical works.

139 Lake St. New Britain, Conn.

Dec. 27, 1923.

Dear Mr. Andrews:

Refering to your letter of the 6th inst. I know only one thing about the cement business of Southington that will probably be of any use to you.

When I lived in Bristol, 1862—1876, Julius Nott, a mason by trade, said he worked on the Croton Reservoir on 42nd st. New York City, That the builders sent all over the country for the different kinds of cement and tested them, and that the cement from Southington was pronounced to be the best of all. When I was a boy, probably before 1848, two horse wagons loaded with cement passed my house frequently on the way to New Haven where the cement was shipped to New York by boat. A. J. Sloper, now of New Britain, told me recently that his father was the driver of one of those cement teams which I saw pass the house.

Great loads of powder from Hazzardville, also passed by. I lived on the main road between Southington and New Haven in the northernmost house within the Plantsville school district.

A little later I used to work in the shop with Anson Merriman's son Alfred. Anson had about a dozen children mostly boys, of whom Josiah the youngest went to Lewis Academy with Luman (Andrews,) and myself. I remember hearing about crazy Merriman, (Anson,) who set out 1,000 Baldwin apple trees one season. About 50 of those trees are still in good condition and bearing.

Of course I know the hole where they used to quarry the cement and the ruins of the old furnace

where they roasted the rock on the little triangle of the road past your fathers old place and that running east from below the south end of High Rock. On the west side of the road near the furnace, (kiln,) was a lot of cotton stone, so called, said to have been brought from Whigville in Burlington.

I went to Whigville and found the boulder from which the cement men got the cotton stone. There are several such boulders in various parts of Burlington, but the ledge from which they came is at Neapaug in the town of New Hartford. Here the Indians had a quarry and shop where they made so called soapstone dishes, but it was not true soapstone or talc, it was Anthophotite.

The Indians had another quarry and shop at East Litchfield on the west side of the Neapaug mountain.

I know the pond on the west side of the road running past your old home, a little north of the Berlin and Southington road, and have been told that the Slopers, (Barnes and Bradley,) used the pond for power to grind their cement with. I also know where the R. A. Moore mill is, I suppose the one where the Andrews cement was ground.

I built a concrete wall for a barn at Bristol about 1872. At that time Rosendale cement sold at \$2.00 per bbl., and Portland, or artifical cement at \$9.00 per bbl. There was no Portland cement then made in this country, it was imported from England.

With the seasons compliments.

Yours truly

James Shepard.

NOTES.

One of the important structures still standing and in constant use, in which the Southington cement was used, is the Main Street bridge over Park River, Hartford, Conn. Mr. George W. Bartholomew of that city, writing about the Southington cement industry, calls attention to the "superior quality as illustrated by our Main Street Bridge on Park River, Hartford, which has the Andrews Cement for mortar."

The following account of the bridge, built ninety years ago, written for the "Memorial History of Hartford County," by Mary K. Talcott, may be of sufficient interest to insert here, as, after ninety years it is a convincing proof of the durability of the Southington cement.

"The first stone in the foundation of the bridge was laid June 18, 1833, and the key stone of the arch inserted November 21.

The structure is one hundred feet wide supported on a single arch (at the time it was built the largest in the United States,) seven feet in thickness at the base, and three feet two inches at the centre; the chord or span of it is one hundred and four feet, and it is thirty feet nine inches from the bed of the river to the top of the arch.

Very little confidence was felt in the stability of the bridge, and many believed that the arch would fall when the wooden supports were removed.

After the bridge was open for travel many farmers coming from the country would fasten their horses on the south side of the bridge and walk across to transact their business; but time has proved the strength of the bridge and after fifty [now ninety] years it stands as firmly as ever."


Newport July 25. 1840

Messrs L. Andrews & Sons

Gentlemen.

I enclose check
for \$22 $\frac{50}{100}$ in full for my bill current.

Res. yours

H. Bull &


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BINDERY INC.



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